REMARKS

As noted above, the Applicant appreciates the Examiner's thorough examination of the subject application.

Claims 1-6, 8-13, and 15-20 are pending in the subject application. In the non-final Office Action mailed 23 June 2011, claims 1-6, 8-13, and 15-20 were rejected on statutory grounds, as described in further detail below. Claim 11 was objected to for an informality, described below.

Claim 11 is amended to address the informality raised in the Office Action. The amendments are supported by the original disclosure, e.g., paragraphs [0018]-[0056], FIG. 1, and the original claims of the application as filed, and also one of the priority documents, i.e., U.S. Provisional Patent Application No. 60/538,120, which is incorporated by reference into the subject application. No new matter has been added.

Reconsideration and further examination of the subject application is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Objections

Claim 11 was objected to for a perceived informality. More specifically, the Office Action stated the following:

> Claim 11 states the method steps for manufacturing pre-formatted linear optical data storage [media] where a step of applying an optical recordable layer covering the pattern of optically readable embossments of the elongated linear polymer layer is performed before hardening the embossments and removing the elongated polymer layer from the drum. Since during the embossment and application of radiation the polymer is attached to the drum it is not possible to add an optical recordable layer on the embossments without removing the polymer from the drum.

In response, claim 11 is amended herein to clarify that "after hardening by application of radiation, removing the linear polymer layer, along with the optical recording layer, from the drum." Applicant submits that the objection has been overcome.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 2, 4-6, 9, 10, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0108710 to Coyle et al. ("Coyle") in view of U.S. Patent No. 4,790,893 to Watkins ("Watkins"). Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Coyle in view of Watkins and in further view of International Patent Application Publication No. WO 97/14142 to Norden ("Norden"). Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Coyle in view of Watkins and in further view of U.S. Patent No. 5,475,660 to Shikichi ("Shikichi"). Claims 11-13, 15, and 17-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Coyle in view of Watkins and in further view of U.S. Patent No. 5,077,181 to Pan et al. ("Pan") and Norden. Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Coyle in view of Watkins and in further view of Pan and Norden as evidenced by U.S. Patent No. 5,627,817 to Rosen et al. ("Rosen"). Applicant traverses the rejections and requests reconsideration for the following reasons.

Independent claim 1, representative of the independent claims, recites the following:

> 1. A system for manufacturing pre-formatted thin tape linear optical data storage media including an elongated linear polymer layer with a thickness of about 4 μm to about 100 μm and an optical recordable layer, the system comprising:
>
> a drum configured to receive the elongated linear polymer layer and for rotation about a rotation axis, and including a circumferential outer surface and a predetermined pattern of protrusions for embossing at least one pattern of optically readable embossments in an elongated linear polymer layer rolled on the drum;
>
> one or more deposition sources configured **to apply an optical recordable layer covering the pattern of optically readable embossments of the elongated linear polymer layer**; and
>
> a radiation source configured to cause the pattern of optically readable embossments of the elongated linear polymer layer to solidify prior to the embossments being removed from the protrusions of the outer surface of the drum, wherein the radiation source is a light source.

[Emphasis Added]

Coyle discloses a method for producing articles bearing patterned microstructures, e.g., optical film, information carrying substrates for optical recording media, etc. includes applying a radiation curable coating material to a surface of a base film substrate, passing the base film substrate and uncured coating through a compression nip defined by a nip roll and a casting drum having pattern master of the microstructures. Coyle teaches that the method further includes curing the radiation curable coating by directing radiation energy through the base film substrate from the surface opposite the surface having the coating thereon while the coating is in contact with the drum, thus causing microstructure pattern to be replicated in the cured coating layer. See, e.g., Coyle, Abstract.

The method that Coyle discloses is a method for roll-to-roll ("R2R") imprinting ONLY, using UV or e-beam curing. Coyle is aimed at producing "articles bearing patterned microstructures" and producing "information-carrying substrates for optical recording media, et.". THUS, Coyle is concerned ONLY about the substrate and not the actual functioning optical media. Coyle does not teach elements required to make the MEDIA (optical tape); further, in contrast with limitations recited in Applicant's independent claims 1 and 11, Coyle does NOT disclose or suggest how to make a Recordable or Erasable or even Read-only media—it just addresses the well-known method of embossing optical data patterns, and no more.

Watkins discloses a process for producing an information carrier containing recorded audio and/or video information wherein a web of a thermoplastic material is extruded onto the patterned surface of a metal master and pressure is applied to force said thermoplastic material into contact with the metal master. The thermpolastic material is cooled to a temperature below its softening point to form an imaged thermpolastic web which is separated from the metal master. Watkins further discloses that then a thin film of metal particles is deposited on the imaged surface of the thermoplastic web and said metallized thermpolastic web is laminated with a substrate carrying an uncured coating of a radiation curable resin. The resin is cured and individual information carriers are separated from the web of information carrying laminate. A

center hole is placed in the separated individual information carriers, when appropriate. See, e.g., Watkins, Abstract.

Watkins discloses what is essentially a method for replicating CDs (see, e.g., Watkins, claim 1: "A process for replicating an information carrier containing stored…information…"). Watkins does not teach *user recordable or erasable media*—only replicating pre-recoded "read-only" discs. Furthermore, Watkins not teach elongated media (tape). The process described in Watkins uses a thermoplastic material (in the form of a web) for molding against a pattern (tool)). The Applicant's claimed invention provides is a significant improvement over the technology described in Watkins by not requiring thermal cycling, which is important because the required continuous heat-cool-heat-cool shortens the tool lifetime and is generally a slower process (the thermoplastic material has to be cooled before removal from the tool, limited by rate of heat flow, and also requires additional expense of active chilling, if used), whereas the UV cure can be virtually instantaneous, leading to much higher production speeds.

Thus, Coyle and Watkins fail to teach or suggest all of the limitations of Applicant's independent claims 1 and 11. Coyle and Watkins are combined with various other references for rejections of dependent claims. None of these references is seen as curing the above noted deficiencies of Coyle and Watkins with respect to independent claims 1 and 11.

Norden, described in Applicant's previous papers, is directed to methods of manufacturing read-only optical media and is not understood as curing the deficiencies noted previously for Coyle and Watkins relative to claim 1 or claim 11. At the very least, Norden fails to teach (or suggest) using a phase-change layer or other recordable layer for embossing writable optical storage media (i.e., media that can be written to and erased), as recited in Applicant's claims.

Shikichi discloses an optical information recording-reproducing apparatus or method, in which a sum signal is generated from a divided sensor to be used for auto-focus (AF) and/or auto-tracking (AT) control. The AF servo is closed after an objective lens is moved to a location in the neighborhood of an in-focus position while working a position servo for an objective lens

actuator using the sum signal. Shikichi further discloses the fact that a light spot is on a track is detected from the sum signal. If this fact is detected as well as the fact that a tracking error signal is in the neighborhood of zero, the AT servo is closed. See, e.g., Shikichi, Abstract. Shikichi is not understood as curing the deficiencies described for Coyle and Watkins relative to Applicant's claims 1 and 11.

Pan discloses antimony-tin alloys including a third element are useful for phase change optical recording. Some preferred alloys have a higher amorphous to crystalline transition temperature and thus, amorphous areas are stable for longer periods. Pan teaches other preferred alloys exhibit improved CNR or lower noise or other improved performance characteristics. See, e.g., Pan, Abstract. Pan is not understood as curing the deficiencies described for Coyle and Watkins relative to Applicant's claims 1 and 11.

Rosen is directed to a multiple data-layer dye-based optical disk drive. See, e.g., Rosen, col. 2, lines 27-30. Rosen is not understood as curing the deficiencies described for Coyle and Watkins relative to Applicant's claims 1 and 11.

Consequently, Applicant submits that the rejection of claims 1-6, 8-13, and 15-20 under 35 U.S.C. § 103(a) over Coyle and Watkins, considered together, or considered together along with any of the other references cited for the rejections. Applicant respectfully requests that the rejection be removed accordingly.

The other claims currently under consideration in the application are dependent from their respective independent claims discussed above and therefore are believed to be allowable over the applied references for at least similar reasons. Because each dependent claim is deemed to define an additional aspect of the invention, the individual consideration of each on its own merits is respectfully requested. The absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be other reasons that have not been expressed for patentability of any or all claims of the application. Finally, nothing in this paper should be construed as an intent to concede, or an actual concession of, any issue with

regard to any claim, or any cited art, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation.

Conclusion

For the foregoing reasons, Applicant submits that all of the claims under consideration in the subject application are in condition for allowance. A timely Notice of Allowance for the application is therefore earnestly solicited.

Should any questions arise, the Examiner is invited to call the undersigned.

Authorization is hereby given to charge our deposit account no. 50-1133 for any fees required for the prosecution of the subject application.

Respectfully submitted,

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Date: 23 December 2011

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